Objective

- Increasing evidence supports a role for the circadian rhythm in the development of metabolic disease.
- In pregnant women with gestational diabetes (GDM) an increasing number with isolated nocturnal insulin resistance is presented; requiring therapy with long acting insulin, partly even without the need of short acting insulin.
- Here we attempt to relate data on circadian rhythm to the insulin therapy during pregnancy.

Methods

- Surveys were mailed to 466 patients with GDM seen in our outpatient department between 2012 und 2014
- Questionnaires about: life style, sleep habits, family status, employment status and profession, working hours, satisfaction with work, overtime working, regular meals, shift-working, sleeping disorders, stress, physical exercise and health status.

Results

- 2012 10.2%, 2013 18.7% and 2014 33.3% of 466 patients with GDM were treated with long acting insulin only
- 121 women replied to the survey (26%) so far
- 57 (47.1%) were treated with insulin, 64 (52.9%) with diet only
- Patients receiving insulin therapy were more likely to live with children (insulin 56.1% vs. diet 43.9% p=0.02) compared to dietary treated patients
- Other differences (insulin vs diet) were only found for weight gain (p=0.011), family status (p=0.02) and subjective health status (p=0.01)
- Women receiving long acting insulin only - tend to be more often in jobs requiring night shifts (30.8% vs. 9.8%, p=0.08)

Conclusion

- Environmental factors affecting the circadian rhythm, including nightwork, shift work and children, influence insulin resistance in GDM patients.
- These should be considered as risk factors for impaired glucose control.
- The measurement of fasting glucose might be a mandatory extension of GDM screening if the evaluated risk factors are present.